

(19) World Intellectual Property Organization  
International Bureau



(43) International Publication Date  
27 December 2002 (27.12.2002)

PCT

(10) International Publication Number  
**WO 02/103586 A1**

(51) International Patent Classification<sup>7</sup>: **G06F 17/60**,  
161/00, A63F 13/12, H04L 12/24

**John** [AU/AU]; 1/5 Lenora Avenue, Davistown, New  
South Wales 2251 (AU).

(21) International Application Number: PCT/AU02/00798

(74) Agent: **PHILLIPS ORMONDE & FITZPATRICK**; 367  
Collins Street, Melbourne, Victoria 3000 (AU).

(22) International Filing Date: 19 June 2002 (19.06.2002)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
PR 5809 19 June 2001 (19.06.2001) AU

(71) Applicant (for all designated States except US):  
**MOBILESOFT PTY LTD** [AU/AU]; Suite 2, 27-35  
Grosvenor Street, Neutral Bay, New South Wales 2089  
(AU).

(72) Inventor; and

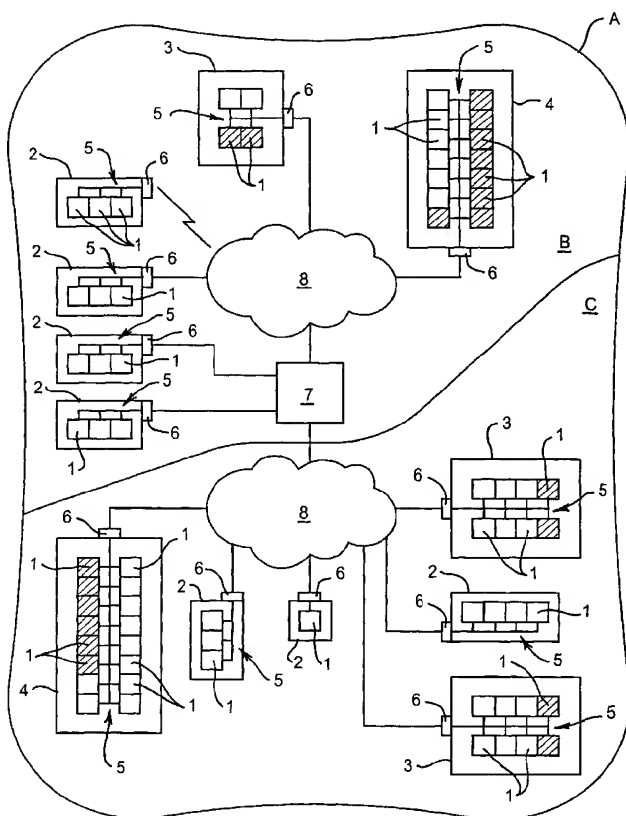
(75) Inventor/Applicant (for US only): **PICKUP, Rodney**,

(81) Designated States (*national*): AE, AG, AL, AM, AT, AU,  
AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU,  
CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,  
GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC,  
LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW,  
MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG,  
SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ,  
VN, YU, ZA, ZM, ZW.

(84) Designated States (*regional*): ARIPO patent (GH, GM,  
KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW),  
Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),  
European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR,  
GB, GR, IE, IT, LU, MC, NL, PT, SE, TR), OAPI patent

[Continued on next page]

(54) Title: ELECTRONIC GAMING MACHINE CONTROL



(57) Abstract: The invention provides a method and network for the management of electronic gaming machines (1) within an area (A) in which the number of allowable gaming machines (1) is capped, e.g. by legislation. A plurality of electronic gaming machines (1) at various locations (2, 3, 4) in the area (A) are linked to a central control centre (7) which can instruct the machines (1) to change status, e.g. to lock-out. The total number of machines (1) at the various venues (2, 3, 4) may exceed the number that are allowable under the cap, but the central control centre (7) ensures that the number of unlocked machines (1) is below the capping number, so that at all times the number of machines (1) which may be played is under the cap. The central control (7) may decide which machines (1) to lock-out based on a number of possible factors, such as the demand for the machines (1) at a location (2, 3, 4). Thus, a small venue (2) may have their machines (1) unlocked during the week, but will have them locked-out at the weekends, e.g. when the venue (2) is closed, so that one or more other venues (3, 4) may unlock a corresponding number of their machines (1).



(BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*

**Published:**

— *with international search report*

## Electronic Gaming Machine Control

The present invention relates to electronic gaming machines, and to methods and networks for managing the same.

5        Electronic gaming machines have become very popular, and the machines have developed significantly in recent years. They may provide games such as poker, Keno, blackjack, roulette, horse-racing and the like, and the term "electronic gaming machines" should be construed broadly, and for example, as well as machines for providing the above games, should be taken  
10        to include any machine which allows a user to play a stake of some form or pay to play.

      Electronic gaming machines may be microprocessor based and may include suitable software, firmware and/or hardware for providing the gaming functions. They may include for example a video screen and suitable user input  
15        features such as control buttons and touch screens, and may include various coin, bill, token and card acceptors, and the like.

      Controls are often in place to regulate the use of such machines, and various authorities have passed legislation as to permissible locations for machines and permissible numbers of machines. For example, in Australia,  
20        machines are only permitted in casinos, hotels and licensed clubs, and capping policies are in place that limit the number of machines allowable within a state and within regions of a state. Capping may also occur on a venue basis, and quotas may be set for each different type of machine allowed.

      Generally, a regulatory watchdog will oversee compliance with the  
25        legislation.

      The present invention aims to provide a method and network for managing electronic gaming machines within such regimes.

      Viewed from one aspect, the present invention provides a method of managing a plurality of electronic gaming machines provided at a plurality of  
30        venues, including the step of placing the machines under a central control, and locking or unlocking the machines so that the number of unlocked machines does not exceed a set amount. The central control determines the number of machines which may be unlocked at each venue depending upon a total number of machines which may be unlocked, and may then issue unlock

commands to the machines which it has determined should be unlocked or otherwise inform them of their allowed status.

Viewed from a second aspect, the present invention provides a network of electronic gaming machines including a plurality of such machines provided  
5 at a number of different venues, and a central control for locking or unlocking the machines so that the number of machines that are unlocked does not exceed a set number.

The present invention enables different venues to have different numbers of machines unlocked at different times, and so provides for great flexibility in  
10 the management of the gaming machines within a capping regime. Thus, the total number of machines physically provided within all of the venues of a capped area may exceed the cap, but the central control will lock-out some of these machines to render them unplayable and so ensure that the number of playable machines stays within the cap. The central control can then decide on  
15 the number of unlocked machines that each venue may have at any one time, so that the capped number of unlocked machines can be appropriately distributed throughout the capped region.

As an example, a small venue may have two or three machines, and for some periods may not require their use, e.g. because the venues are not open  
20 or because the clientele during those periods do not generally use the machines. Using the present invention, the central control may lock-out these machines during these periods, and may unlock a corresponding number of machines at one or more other venues having a demand for them.

By using the present invention, a small community-based club, such as a  
25 small bowling club, may have their machines locked-out during certain times of the day or week, and may authorise the central computer to allow one or more other venues, e.g. a hotel or casino, to unlock a corresponding number of their machines during these times. The club may charge for this, and so may earn a larger revenue from their allocation of machines under the cap than would  
30 otherwise be the case.

The central control may determine which of the machines to unlock in any suitable manner. Generally, each venue will be assigned an initial allocation of machines, which will be the number that they may normally unlock at any one time. They may then lease out these allocations when they are not

needed or when demand from them is low (or when e.g. a greater profit may be obtained through another venue).

In one preferred embodiment, the venues may have a number of pre-arranged agreements between them as to who will have how many unlocked machines and when, and the central control with unlock and lock the machines based on these agreements. Thus, one venue may agree to have their machines locked-out at a certain time to allow one or more specified venues to have a corresponding number unlocked.

Alternatively or also, a venue may have a pre-arranged agreement on lock-outs with the central control rather than with any specific other venues, and the central control may then distribute the freed up allocations as it decides is appropriate, e.g. in accordance with further pre-arranged agreements which allow various of the venues to increase their number of unlocked machines at set times when allocations become available.

Such pre-arranged agreements may for example be submitted for approval to an official regulator before being implemented.

Also or alternatively to such pre-arranged regimes, the central control may monitor the usage and the like of the electronic gaming machines, for example in order to determine which venues have the highest demand, profitability or the like, and may lock and unlock machines based on criteria related to the monitoring, so that for example demand can be met.

In another possible embodiment, venues may make offers to lock some or all of their machines or may make requests to have one or more of their machines unlocked, and the central control may co-ordinate these offers and requests so that a suitable distribution of machines is achieved. For example, a venue may request the unlocking of a certain number of their machines, and may specify a remuneration that they are prepared to pay for this. Other venues may offer to lock their machines accordingly. Alternatively or also, a venue may offer to lock one or more of their machines, and other venues may bid for the unlocking allocations that this would make available.

The central control may also detect when a machine becomes unusable for some reason, e.g. because it has become defective or because it has been locked-out through some illegal operation, and may allow another machine to come on-line to take its place (at the same venue or elsewhere).

The central control may record specific relationships between venues, and for example could control the allocation of unlocked machines in accordance with various sub-networks of the overall system, a sub-network for example corresponding to venues owned by the same company.

5       A fee may be charged for the services of the central control, e.g. a set administration fee such as in the nature of a network management fee and/or a share of (gross or net) profits of the machines that have been re-allocated to a venue, etc. Fees may also be charged by a venue for the locking of their machines, again on a flat fee or on a share of profits basis. This may be  
10       payable by the central control or by the venue or venues receiving the corresponding unlocking allocations.

The central control may provide an audit function, and may provide billing control for the venues.

15       The electronic gaming machines may be connected to the central control in any suitable manner. Machines in the same venues may for example be connected together on a local area network (LAN), and may be connected to the central control over a wide area network (WAN). They may alternatively or also connect to the central control directly.

20       The connection with the central control may be continuous, or may be created on demand, e.g. through the initiation of the central control or the electronic gaming machines. Connection could for example be a dial-up connection initiated at set times or when a specific event or condition arises.

25       Lock-out of a machine may be achieved in any suitable manner, and may for example be initiated through known lock-out commands. Such commands are currently used when for example an illegal operation is detected, such as tampering with an access door to a secure area within a machine.

30       The electronic gaming machines themselves may be microprocessor controlled, and may include software, firmware or dedicated hardware therein for communicating with and accepting commands from the central control, and for providing the gaming functions and status recording. They will generally include a network adaptor therein, such as an Ethernet card, in order to provide a physical connection with a LAN or the like, although other connections, such as a modem device for a dial-up connection could also be used.

The central control may directly instruct gaming machines to change status, or may inform a local controller for a venue, area or sub-network or the like, as to how many and/or which machines to unlock/lock. The local controller may then be left to determine which specific machines should be  
5 unlocked/locked.

Besides providing a way of distributing electronic gaming machines in a capped regime, the invention may also provide other benefits. For example, the network would allow a regulator to vary a cap e.g. as to when the cap should be in place and as to the number of machines allowed, and may include capping  
10 on a venue or above area basis.

For example, a cap could be increased for a set period of time and for set venues in accordance with tourism demands, whilst it could be decreased at other times.

Besides locking and unlocking machines, the central control may also or  
15 alternatively take other action. For example, in accordance with a cap, the central control may change the denominations of monies that are acceptable to the machines so that for example a machine may become a \$1 per play machine instead of a 5 or 10 cents machine (or vice versa). Also, the type of game played on the machine could be altered, e.g. from poker to Keno or the  
20 like.

Thus, the present invention may also allow machines to have their games changed based upon a cap made on the basis of quotas for different types of game.

Further, instead of locking a machine out, the central control could  
25 instead alter the machine to become a non-gaming machine, e.g. a video arcade machine or Internet access machine or to take on some other function.

Thus, viewed from a further aspect, the present invention provides a network of electronic gaming machines including a plurality of such machines provided at a number of different venues, and a central control for changing the  
30 status of the machines between a first gaming state in which a machine is able to perform a gaming function, and a second (e.g. non-gaming, alternative gaming, or lock-out) state different from the first state, the central control determining which machines to place in the first state in such a manner that the number of machines in the first state does not exceed a preset number.

The present invention also provides a method for managing electronic gaming machines, including the step of placing the machines under a central control, and of determining whether the machines should be placed in a first gaming state or in a second (e.g. non-gaming, alternative gaming, or lock-out) state different from the first state, based on capping information.

Viewed from another aspect, the present invention provides a method of managing electronic gaming machines, including the steps of placing the machines under a central control, and of changing the state of the machines based on capping information.

Viewed from a further aspect, the present invention provides a network of electronic gaming machines, including a plurality of such machines provided at a plurality of venues, and a central control for changing the state of the machines based on capping information.

The machine state may relate to any suitable feature/function of the machine, e.g. to a gaming function or facility, a gaming or non-gaming state, the game type, the monies and denominations accepted, the jackpots provided and the like.

The capping information may also be based on any suitable criteria, e.g. on area, location, type of venue, type of machine and/or game, time and date, and the like.

The present invention also extends to software, firmware and/or hardware for implementing the above features.

Thus, viewed from another aspect, the present invention provides computer software for managing a plurality of electronic gaming machines from a central control, the software including a component for determining which of the machines may be placed in a first gaming state, such that the number of machines available for use in that state falls within a set limit, and a component for sending instructions to the machines based on the determination.

Embodiments of the present invention will now be described, by way of example only, with reference to the accompanying drawings. It is to be understood that the particularity of the drawings does not supersede the generality of the preceding description of the invention.



Figure 1 is a schematic diagram of a plurality of electronic gaming machines at various venues within a state showing the unlocked and locked statuses of the machines at one particular time.

Figure 2 is a similar diagram to Fig. 1, but showing the unlocked and  
5 locked statuses of the machines at a different time.

Referring to Fig. 1, a plurality of electronic gaming machines 1 are provided at various venues, such as clubs 2, hotels 3 and casinos 4 of varying sizes throughout a state A.

At each venue 2, 3 or 4, the gaming machines 1 are connected together  
10 by a local area network (LAN) 5, such as an Ethernet LAN, having a gateway device 6 that connects the LANs 5 to a central control 7 either directly or through a Wide Area Network (WAN) 8. The electronic gaming machines 1 thus form a network of machines controlled by the central control 7.

The connections between the machines 1, gateway devices 6, WANs 8  
15 and the central control 7 may take any suitable form, e.g. fixed line or wireless transmissions, and may be continuously open or provided on demand, e.g. in a dial-up manner.

It will of course be realised that the shown methods of networking and  
20 connection are non-limiting, and that they may take any form that allows for control of the electronic gaming machines 1 directly or indirectly by the central control 7.

The electronic gaming machines themselves will have a microprocessor control, an adapter card for connecting to the LAN 5 and suitable software for running the gaming programme and for communicating with the central control  
25 7.

The central control 7 may comprise suitable computer hardware and control programming. It determines which of the machines 1 are to be locked and unlocked, based on a preset cap e.g. as imposed by a regulatory body. This cap may be a state cap, and may also include regional caps and venue caps. For example, in the shown illustrative network, a cap of 50 working  
30 machines may be set throughout the state A, whilst within this, a cap of 20 working machines may be set in a region B. In addition, venue caps may be set, e.g. so that a particular venue may only have a set number of machines,

and/or so that a venue of a particular type, e.g. club, hotel and/or casino, may only have a set number of machines.

In the examples shown in Figs. 1 and 2, the shaded machines are locked, and the unshaded machines are unlocked.

5 Thus, in the example shown in Fig. 1, the smaller venues 2 have all of their machines 1 unlocked, whilst the larger venues 3 and 4 have some of their machines locked out. Such a situation may provide an optimum distribution for e.g. a weekday.

10 It will be noted that the number of unlocked machines in the region B is equal to the regional cap of 20 working machines, whilst in the remaining area of the state A (Region C), the number of unlocked machines is set to 30, so as to keep the number of unlocked machines in the state A at the state cap of 50.

15 Fig. 2 shows the same network at a different time, which may for example be on a weekend evening. In this case, the larger venues 3,4 may be experiencing heavy demand, and so may wish to have all of their machines unlocked, whilst the smaller venues 2 may be closed or may experience little demand, and so may have no need for their machines.

20 In this case, the smaller venues may receive a fee from the larger venues for allowing the transfer of their allocation of unlocked machines to the larger venues. This fee may be a flat fee for each machine, or a fee dependent upon the net or gross profit resulting from the allocation of the unlocked machines to the larger venues. This profit may be set as an average of the takings by all of the machines or may be based on the profit of a single machine or a sub-set of the machines, or in some other suitable manner.

25 Thus, the smaller venues, which are often community-based clubs, are able to increase their revenue, whilst the larger clubs can fulfil their demand. The present invention thus addresses the needs of both small and large venues within a capping regime.

30 The organization running the central control 7 may also charge a fee for their services. Again, this may take any suitable form, and may comprise a flat management fee and/or a fee associated with the turnover of a leased unlocked allocation.

It will be noted that in Fig. 2, the Region B has 18 unlocked machines, two under that provided by the regional cap, and so the Region C is able to have 32 unlocked machines.

It will also be noted overall that the total number of machines at the various venues may exceed the number that are allowable under the caps, but that the central control ensures that the number of unlocked machines is below the capping numbers, so that at all times the number of machines which may be played is under the caps. Thus, overall in state A there are 70 actual machines, but only 50 are playable at any one time, whilst in region B there are 30 actual machines but only 20 are playable at any one time.

Various possible criteria may be used by the central control 7 in deciding on how to allocate the unlocked machines. For example, venues may have pre-arranged agreements between one another to allow one to allocate some or all of their allotment of machines to one or more of the other venues at various times. Alternatively, a venue may have a pre-arranged agreement with the central control, that its allocation of machines may be available at certain times, and the control may allocate the machines as appropriate, and in accordance with e.g. pre-arranged agreements between the central control and other venues that they can receive available allocations at various set times. These pre-arranged agreements may then be pre-authorised by a regulatory body.

It is possible for the central control 7 to change the cap, so that more or less machines can be unlocked at set times.

The central control 7 may also be able to monitor the machines, and may be able to make new assignments of the allocations dependent upon the status of the machines. For example, should a machine become faulty or otherwise unavailable, the central control may lock-out the machine and unlock another machine which is available for use, either at the same venue or elsewhere.

The central control 7 may record information of the statuses of the various machines for review by a regulatory authority. It may also provide other support services, such as an audit trail for the usage, etc., of the machines and inter-venue billing control.

It is to be understood that various alterations, additions and/or modifications may be made to the parts previously described without departing from the ambit of the present invention, and that, in the light of the teachings of

the present invention, the various network components and functions may be implemented in software, firmware and/or hardware in a variety of manners.

In one possible alternative, instead of locking a machine out, the central control 7 may change the status of a machine so that it provides a non-gaming  
5 function or changes the denomination of monies that it will accept to play a game or changes the type of game played or the like.

Further, the central control may monitor the usage of the machines, and may allocate unlocked machines based on where demand is heaviest or based on some other suitable criteria.

**Claims**

1. A method of managing a plurality of electronic gaming machines provided at a plurality of venues, including the step of placing said machines  
5 under a central control, and locking or unlocking said machines so that the number of unlocked machines does not exceed a set amount.
2. The method of claim 1, wherein said method includes the step of  
10 providing a fee to a venue for the locking of one or more of the venue's machines.
3. The method of claim 1 or 2, including the step of pre-assigning machine allocations for one venue to one or more other venues at one or more set times.
- 15 4. The method of claim 1 or 2, including a step of bidding for unlocked machines.
5. The method of any preceding claim, including the step of monitoring the status of said machines and of assigning allocations of unlocked machines  
20 based on the results of said status monitoring.
6. The method of claim 5, including the step of monitoring machine demand.
- 25 7. The method of claim 5, including the step of monitoring the operative status of the machines.
8. The method of any preceding claim, including the step of grouping the machines into two or more sub-groups, and unlocking the machines so that the  
30 number of machines unlocked in one or more of the sub-groups does not exceed one or more set limits.

9. The method of any preceding claim, wherein the central control instructs local controllers at the venues as to the number of machines at those venues that may be unlocked.

5 10. An electronic gaming machine network including a plurality of electronic gaming machines provided at a number of different venues, and a central control for locking or unlocking said machines so that the number of said machines that are unlocked does not exceed a set number.

10 11. The network of claim 10, wherein said central control assigns said unlocked machines to said venues in accordance with preset agreements.

12. The network of claim 11 or 12, wherein said central control monitors the status of said electronic gaming machines, and unlocks and locks said  
15 machines based on the status of said machines.

13. An electronic gaming machine network including a plurality of electronic gaming machines provided at a number of different venues, and a central control for changing the status of the machines between a first gaming state in  
20 which a machine is able to perform a gaming function, and a second state different from the first state, the central control determining which machines to place in the first state in such a manner that the number of machines in the first state does not exceed a preset number.

25 14. The network of claim 13, wherein said central control places said machines in either a locked or unlocked state.

15. A method for managing electronic gaming machines, including the step of placing the machines under a central control, and of determining whether the  
30 machines should be placed in a first gaming state or in a second state different from the first state, based on capping information.

16. The method of claim 16, wherein said machines are placed in an unlocked gaming state or a locked state.

17. A method of managing electronic gaming machines, including the steps of placing the machines under a central control, and of changing the state of the machines based on capping information.

5

18. A network of electronic gaming machines, including a plurality of such machines provided at a plurality of venues, and a central control for changing the state of the machines based on capping information.

10 19. Computer software for managing a plurality of electronic gaming machines from a central control, the software including:

a component for determining which of the machines may be placed in a first gaming state, such that the number of machines available for use in that state falls within a set limit; and

15 a component for sending instructions to the machines based on the determination.

20 20. The software of claim 19, including a component for sending instructions to lock a machine if it is determined that it is not to be placed in a gaming-enabled state.

21. Gaming networks substantially as hereinbefore described with reference to the accompanying drawings.

25 22. Methods of managing a plurality of electronic gaming machines substantially as hereinbefore described with reference to the accompanying drawings.

30 23. Software for managing a plurality of electronic gaming machines substantially as hereinbefore described with reference to the accompanying drawings.

1/2

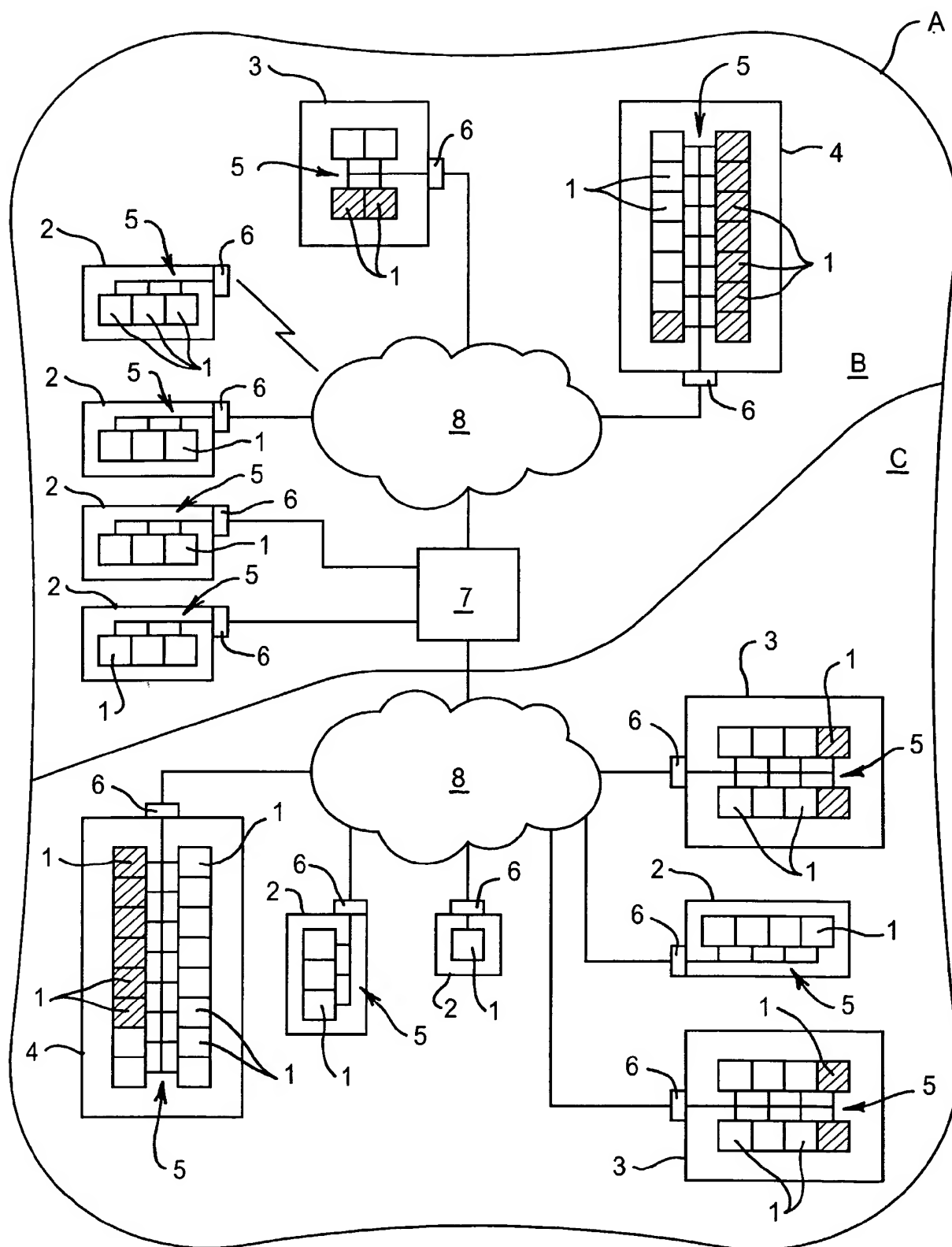


FIG 1



2/2

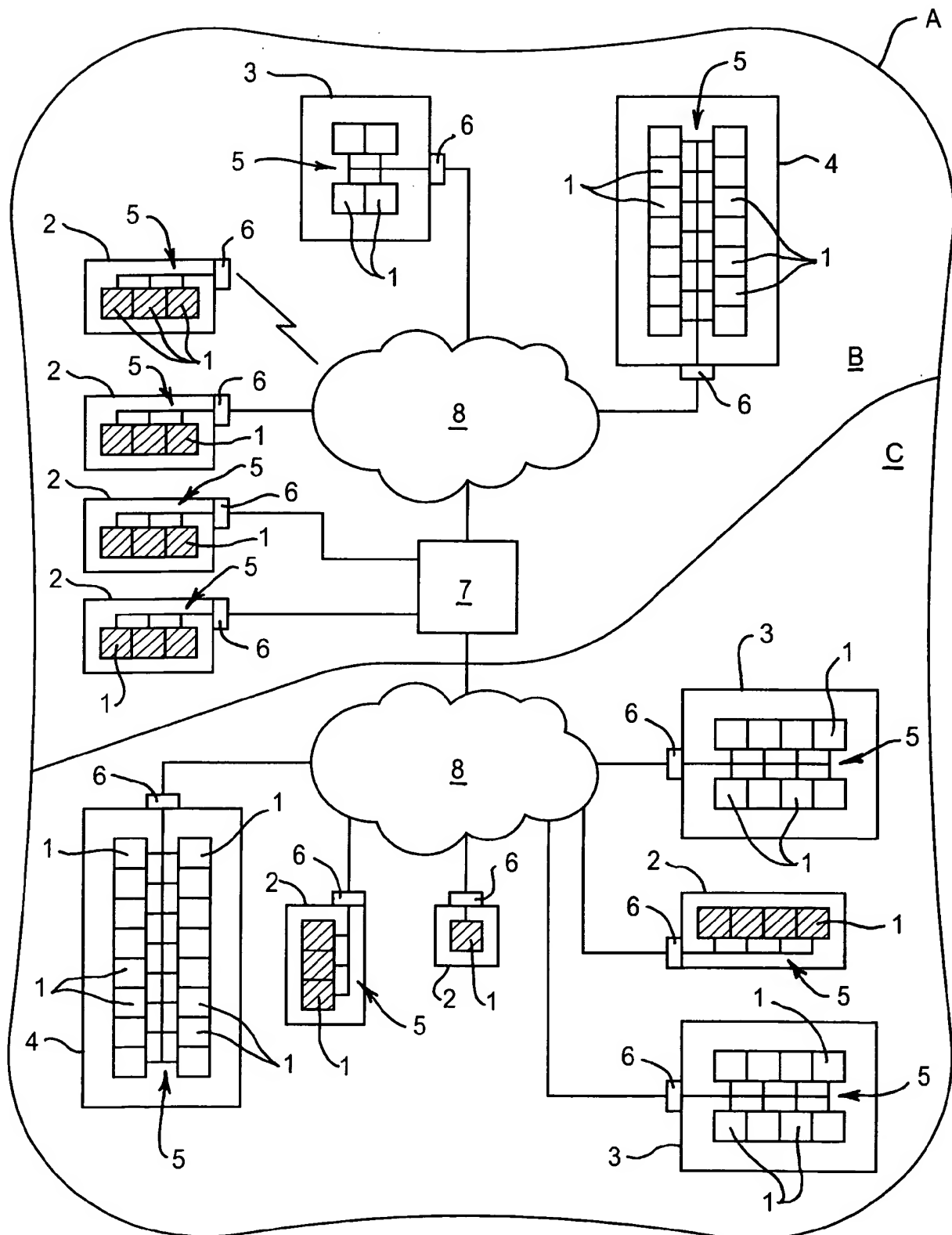


FIG 2

## INTERNATIONAL SEARCH REPORT

International application No.

PCT/AU02/00798

<b>A. CLASSIFICATION OF SUBJECT MATTER</b>												
Int. Cl. <sup>7</sup> : G06F 17/60, 161:00, A63F 13/12, H04L 12/24												
According to International Patent Classification (IPC) or to both national classification and IPC												
<b>B. FIELDS SEARCHED</b>												
Minimum documentation searched (classification system followed by classification symbols)												
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched												
Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)												
WPAT, USPTO, (gaming, network, license)												
<b>C. DOCUMENTS CONSIDERED TO BE RELEVANT</b>												
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.										
A	US 5742757 A (Hamadani et al) 21 April 1998 Whole Document											
A	WO 01/18710 A2 (Rainbow Technologies, Inc) 15 March 2001 Whole Document											
A	GB 2346989 A (International Business Machines Corporation) 23 August 2000 Whole Document											
<input type="checkbox"/> Further documents are listed in the continuation of Box C <input checked="" type="checkbox"/> See patent family annex												
<p>* Special categories of cited documents:</p> <table border="0"> <tr> <td>"A" document defining the general state of the art which is not considered to be of particular relevance</td> <td>"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention</td> </tr> <tr> <td>"E" earlier application or patent but published on or after the international filing date</td> <td>"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone</td> </tr> <tr> <td>"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)</td> <td>"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art</td> </tr> <tr> <td>"O" document referring to an oral disclosure, use, exhibition or other means</td> <td>"&amp;" document member of the same patent family</td> </tr> <tr> <td>"P" document published prior to the international filing date but later than the priority date claimed</td> <td></td> </tr> </table>			"A" document defining the general state of the art which is not considered to be of particular relevance	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention	"E" earlier application or patent but published on or after the international filing date	"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone	"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art	"O" document referring to an oral disclosure, use, exhibition or other means	"&" document member of the same patent family	"P" document published prior to the international filing date but later than the priority date claimed	
"A" document defining the general state of the art which is not considered to be of particular relevance	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention											
"E" earlier application or patent but published on or after the international filing date	"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone											
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art											
"O" document referring to an oral disclosure, use, exhibition or other means	"&" document member of the same patent family											
"P" document published prior to the international filing date but later than the priority date claimed												
Date of the actual completion of the international search 2 August 2002		Date of mailing of the international search report 7 AUG 2002										
Name and mailing address of the ISA/AU AUSTRALIAN PATENT OFFICE PO BOX 200, WODEN ACT 2606, AUSTRALIA E-mail address: pct@ipaustalia.gov.au Facsimile No. (02) 6285 3929		Authorized officer  <b>R.H. STOPFORD</b> Telephone No : (02) 6283 2177										

**INTERNATIONAL SEARCH REPORT**

Information on patent family members

International application No.

**PCT/AU02/00798**

This Annex lists the known "A" publication level patent family members relating to the patent documents cited in the above-mentioned international search report. The Australian Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

Patent Document Cited in Search Report		Patent Family Member	
US	5742757	NONE	
GB	2346989	NONE	
WO	01/18710	EP	1190356
		AU	7349500
END OF ANNEX			